Evolution of the Product Manager

Better education needed to develop the discipline

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Software practitioners know that product management is a key piece of software development. Product managers talk to users to help figure out what to build, define requirements, and write functional specifications. They work closely with engineers throughout the process of building software. They serve as a sounding board for ideas, help balance the schedule when technical challenges occur – and push back to executive teams when technical revisions are needed. Product managers are involved from before the first code is written, until after it goes out the door.

Due to this close relationship, product management is often aligned with the engineering teams. At Microsoft, for example, it's considered to be part of the core software-engineering organization (note, Microsoft uses the term “program manager” to refer to the responsibilities called product management in this document).¹⁰ At Google, a computer science (CS) or computer engineering (CE) degree is required to apply for an APM (associate product management) role.⁶

While a technical degree is an asset to a product manager, it's not enough to excel in the role. The industry needs to push for better education tailored to aspiring product managers. They currently have a few ways to learn and develop their product management skills—on the job, in education boot camps, or in graduate programs—but more needs to be done.

ORIGINS OF PRODUCT MANAGEMENT

One reason product management has not traditionally been included in engineering curricula is because it did not start as an engineering role. Its earliest form was *brand management*, a term coined by a young advertising manager named Neil McElroy, who in 1931 wrote a memo to the executive team at Procter & Gamble proposing the idea of a “brand man”—an employee who would be responsible for a product, rather than a business function.³ The role had many similarities to modern-day product management. His memo called out the need to promote processes that work and outline solutions to problems. Above all, it called for the “brand man” to take full responsibility for the product. From McElroy's memo:

- “Where brand development is... progressing, examine carefully the combination of effort that seems to be clicking and try to apply this same treatment to other territories that are comparable.”
- “Where brand development is light... study the territory personally at first hand... find out the trouble... develop a plan... outline this plan... prepare... all other necessary material for carrying out the plan... keep whatever records are necessary.”
- “Take full responsibility, not simply for criticizing individual pieces of printed word copy, but also for the general printed word plans for his brands.”

Between the 1930s and the 1980s many firms adopted brand-management principles. Consumer product companies still tend to group these responsibilities under the title of product manager. Some graduate business programs focus on what they call “brand and product management.”

As the software industry matured, its products became more consumer-targeted, and companies began to see the wisdom in applying some of the same principles of consumer product management to their products. Intuit was among the first tech companies to do so. Its founder, Scott Cook, was previously a brand manager at P&G and implemented those principles at Intuit. The company focused on user needs to develop its software.

Other software companies came to the same discipline from a different direction. Microsoft started out as a software company without the product-management discipline (called *program management* at Microsoft). As time went on, engineers alone could not meet technical demands *and* create a cohesive product for users.

Former Microsoft executive Steven Sinofsky describes the program-management role at the company as filling in gaps that software engineers could not:¹²

“Program managers got started at Microsoft while developing Excel for the Macintosh. The challenge the company saw was that we were stretched thin trying to push the state of the art in technology... The developers were very busy just trying to make things like printing, display, graphics, etc. work as well as trying to develop new algorithms for spreadsheets and modeling. That meant that the place where we were not focusing enough attention was on the usability or the scenarios for how people would use the software... So at Microsoft a new role was created in Program Management with the explicit goal of partnering with development and working through the entire product cycle as the advocate for end users and customers.”

Similarly, Joel Spolsky, who once held the title of program manager on the Microsoft Excel team, recalls that Jabe Blumenthal, a programmer on the Mac Excel team in the late '80s, “noticed that software development was getting so complicated that none of the programmers had the time to figure out how to make software that was either usable or useful. The marketing team was ranting and raving about customer needs and nobody had time to talk to them or translate their MBA-speak into actual features. There was a lot of product design stuff that took a lot of work: talking to users, running usability tests, reviewing competitive products, and thinking hard about how to make things easier, and most programmers just didn't have the time (nor were they particularly good at it). Blumenthal took the title ‘program manager...’ a role that involved designing user interfaces, writing functional specs, coordinating teams, and serving as the customer advocate.”¹³

Regardless of whether the role comes out of the realm of brand management or engineering, product managers end up with similar roles. They are responsible for figuring out a plan, and making sure that plan is implemented.

CURRENT STATE OF PRODUCT MANAGEMENT

Product management as a job has evolved organically. Universities still lack accredited product management programs (some graduate programs exist for brand and product management, though they typically focus on the consumer goods industry, not the computing industry). Since there's no shared training for product managers, many companies have evolved their own doctrines.

One favored resource is Ben Horowitz's document, “Good Product Manager/Bad Product Manager,”¹⁴ created for his work at Netscape. It echoes McElroy's memo when it states, “Good product managers take full responsibility and measure themselves in terms of the success of the product.”

Similarly, Paula Gray, anthropologist-in-residence at the AIPMM (Association of International Product Marketing and Management), states that product managers “must be able to envisage

the product from start to finish and to have the ability to ensure that this vision and strategy of the organization is realized.”⁷

The role differs, however, in the way it sits within the organization. Horowitz emphasizes the product manager as part of the engineering team, as is common in software companies. “Engineering teams don’t consider good product managers a ‘marketing resource.’ Good product managers are the marketing counterparts of the engineering manager.”

That’s the key distinction between the origin of product management and its role in the software industry. In software it’s not just about executing the advertising strategy. Because the products change so quickly, it’s also about deciding what to build, and executing that.

Other respected pieces on how the discipline has been implemented include: Microsoft’s JobsBlog article on the Zen of PM;⁹ First Round Capital’s articles on Google’s product strategy⁴ and an explanation of good product management at Facebook;⁵ and Julie Zhuo’s essay on how to work with product managers.¹⁵

While it varies by company, the role of product manager generally encompasses three areas:

- **Experience (design).** This is the user-facing aspect of the product. It means deciding which features to build for the users—not necessarily which features will make money but which ones make for a better product.
- **Technology (engineering, project management).** This involves understanding the implementation of the product. At the least, it means managing the schedule and checking in on accomplishments. In a more technical product manager role it might involve working directly with developers to create an API specification.
- **Strategy (business).** This is the piece most aligned with brand management. Strategy means deciding which business areas the product needs to grow in and why. It also means running A/B tests and other experiments to help optimize the performance and revenue of the product.

TYPES OF PRODUCT MANAGERS

Since the role varies by company and has three distinct parts, not every product management job is the same. Most product managers are stronger in one or two areas. Their areas of strength are often influenced by their fields of study and experience before entering the career.

Christina Wodtke has proposed a framework in which product managers are identified by their areas of strength.¹⁴ She suggests that because product managers enter from another discipline, they take on the flavor of that discipline—be it design, engineering, or business.

A highly technical company may want product managers with more of an engineering focus. A company that sells to enterprise clients might prefer product managers who have more of a business focus. A company that’s striving to find market fit might want more experience-focused product managers.

CURRENT EDUCATION FOR PRODUCT MANAGEMENT

Since there’s no standard way to become a product manager, people take a variety of approaches. A few of the most common approaches are:

- Going to engineering school and then entering straight into a product-management role and learning on the job.¹
- Going to engineering or design school, starting in that discipline, and then transitioning into

product management as needed on the team (much the way product management was originally created during work on Excel for the Mac).

- Working in an adjacent nontechnical role such as marketing, account management, or customer service. Nontechnical employees sometimes transition into product management as a way of getting closer to the product.²
- Going to an MBA program.¹¹ In fact, as product management becomes a more desired career for MBAs, MBA programs are creating new classes. One of the best is Tom Eisenmann's PM101 class at Harvard Business School, which focuses on relevant content for both consumer goods and software product management (<https://sites.google.com/site/hbspm101/home/2013-14-archive/2014-sessions-part-1>).

Recently, programs such as Startup Institute and General Assembly are offering a more targeted education for people trying to move into product management. Startup Institute is a full-time eight-week program to retrain people to be good early-stage startup employees. One of its four tracks focuses on product and design (<http://www.startupinstitute.com/programs/curriculum/product-and-design>), teaching a combination of classic design skills (typography), modern design skills (responsive design), and front-end engineering. It touches on product management.

This is a valid way of teaching product management since it involves many disciplines and helps an individual understand all of the pieces. Yet, attempting to learn to design, write software, and understand product management in eight weeks is a daunting endeavor.

General Assembly (<https://generalassemb.ly/education/product-management>) is another emerging program for product management education. Its business fundamentals curriculum includes a 10-week, four-hour-per-week product management course. Rather than focusing on engineering, design, and product management, it focuses more on the skills a product manager will frequently need, such as creating and prioritizing a features list, creating wireframes, and making a roadmap. The curriculum also includes some classic business education that is not commonly used for software product managers, such as Porter's Five Forces. General Assembly is also starting a new "immersive" product management class that will allow students to focus on the topic full-time for 10 weeks.

CONTINUING EDUCATION FOR PRODUCT MANAGERS

Once people enter product management via one of the routes stated here, the only way left to learn is on the job. There are a few ways computing professionals can help product managers continue to learn and improve in the field.

MENTORSHIP FROM EXPERIENCED ENGINEERS

As Horowitz stated in PM101, the product manager should be a foil to the engineering lead. An experienced engineering lead has likely worked with great product managers before and has expectations about the product manager's abilities.

The engineering lead is one of the core people a software product manager works with. They often have overlapping responsibilities. In many companies, both help to keep track of schedules, breakdowns, and progress.

Because of the significant overlap, engineering leads can proactively help new product managers grow into their roles. First, engineering leads can set clear expectations of what they need from product managers. This will help new product managers prioritize their own work and create a more solid relationship with the engineering team.

If the bandwidth is available, engineering leads and product managers can absorb their shared responsibilities. Particularly, if a new product manager is overwhelmed with just trying to decide “what” to build, it may make sense for the engineering lead to take on the project-management responsibility. Then, as the product manager becomes more comfortable, the engineering lead can transfer more work to the product manager over time.

This type of relationship does not need to be restricted to the engineering lead. Often, senior engineers have built many products and worked with many product managers, and they should not be afraid to give feedback to new product managers.

Engineers can also be welcoming to new, especially nontechnical, product managers by offering to help with technical education. Explaining why a particular feature will take longer to build will help the product manager develop a better intuition for what is or isn’t feasible.

OTHER CROSS-TRAINING

A benefit of the Startup Institute program is that it includes engineering, design, and product management. Product managers can grow in their roles by learning more about the areas in which they are not comfortable.

For nontechnical product managers, usually the most daunting piece is learning more about technical systems. The suggestions already given for working with engineering teams can help.

Similarly, all product managers should learn more about design and business angles of building a product. They can do so by working with their design and business counterparts. Observing a design critique is a good way to see how designers view their work. The key is that at first the product manager should only be observing—and paying careful attention to the designer’s feedback.

Product managers might also want to sit in with the strategy or business development teams to get a better feel for the company strategy, and as a result the product strategy. They might even go on a visit to a customer with an account manager.

Sometimes internal cross-training is not an option. Another way to get experience from other disciplines is to use an educational stipend. If a stipend is available, it’s wise for a product manager to take a design or business class. Similarly, a technical product manager could opt to attend a design or business conference to learn more about those angles.

If a budget for education is out of the question, free online options are available. These could be accessed during work time without distracting other employees. For nontechnical product managers who want to learn about software, this could be as simple as trying out an independent training program such as Codecademy ([codecademy.com](https://www.codecademy.com)), Treehouse ([teamtreehouse.com](https://www.teamtreehouse.com)), or Dash (dash.generalassemb.ly). For technical product managers looking to learn about design, HackDesign (hackdesign.org) is a good option.

CONFERENCES AND MEETUPS

Another way that product managers can improve their skills is to learn from other product managers. Conferences and meetups are good places to find experienced product managers. These are the people who would qualify as “faculty” if product management were an academic discipline.

At conferences, product management leaders share their experience on an array of topics. This can be a good way to get a product manager thinking about different challenges in building social features, internationalization, and launching new product lines, for example.

Unfortunately, there are not that many product-management conferences. Wodtke postulates it's because product management is more focused on the success of the product than on how to make products. "PM is a different job because how they do it is a distant second to their success than results. Perhaps that's why there is so little written about how to be a PM compared to the other disciplines, and so few conferences."

Project management conferences include #ProductSF (<https://www.eventbrite.com/e/productsf-building-better-products-tickets-10613205383>), Product Camp (productcamp.org), and the Product Management Festival (productmanagementfestival.com).

While meetups are informal, they also are opportunities for product managers to get together and discuss the challenges they face. Many software startups have few product managers, and not many mutual experiences to draw on. A broader network is a valuable resource, especially for new product managers.

PEER MENTORING

Another trend in product management training is peer mentoring. This is similar to the role of conferences and meetups, but with more of a one-on-one experience with another product manager.

One way to find a peer mentor is through an existing network. Product managers at Union Square Ventures-funded companies can apply to its peer-mentoring program. Other firms may start similar programs.

If you're a manager with connections across the industry, consider talking to other managers to help connect your product managers to those in other companies. (You could also do the same for junior engineers!)

EARLY EXPOSURE

Another way to get better product managers is simply by training more people in school and making sure that technical students have the opportunity to pursue product management. Students should be made aware of the opportunity and have the chance to practice before entering the work force.

This does not mean engineering students should be doing less technical work. Product-management skills can be introduced as part of the work students are already doing, and a substantial benefit can be gained with small adjustments.

Technical professionals who have entered product management should spread the word. They can return to their schools and give talks on their work as product managers. Companies can be sure to mention product management (or sponsor talks on the discipline) during industry events.

Within academic programs, requiring more projects will allow for more product-management experience. Two programs that already do this are the Olin College of Engineering and the Rochester Institute of Technology.

CONCLUSION

Product management started out as brand management, and in the software industry was redeveloped to fill a gap in engineering. It then proliferated across companies. Unfortunately, product management education has not caught up to its prevalence in the industry. The field does not have consistent product management education. This makes it difficult to have a consistent set of expectations. A more standard curriculum could add significant value to the discipline. Computing professionals need to work proactively to improve the quality of education and continuing education for product managers.

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